

REMARKS

Reconsideration and withdrawal of the rejection set forth in the above-mentioned Office Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 1-41 remain pending in the application, with Claims 1, 16, 17, 21, 34, 35, and 37-39 being independent. Claims 1, 4, 8, 16, 17, 21, 24, 28, 31, 34, 35, 37-39 and 41 have been amended.

Claims 1-41 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,897,977 (Bright). This rejection is respectfully traversed.

Bright is directed to a method for compressing image data. Areas of a pixel grid corresponding to the image data are divided into increasingly smaller triangles based on the level of detail contained within each triangle. For each triangle, a set of predicted component values are determined, based on actual component values at the vertices of the triangle or actual component values on or proximate the edges of the triangle. The predicted component values are compared with corresponding actual component values to see if a similarity threshold is met. If so, the processing of the current triangle is complete and that of the next triangle begins. If not, the current triangle is divided and the process is repeated.

Initially, it should be pointed out that as understood by Applicants, Bright does not disclose a method of processing data defining a plurality of first polygons and texture data therefor to generate data defining a texture map. Rather, Bright teaches processing in a different angle field, namely, 2-D image and video compression to eliminate the discontinuities caused by

the JPEG compression scheme (col. 2, lines 51-55). The result of the processing in Bright is an image file comprising a list of vertices of triangles and grey scale intensity values for the vertices. This list is in the form of a string of bits or characters (col. 7, lines 2-14 and lines 27-32).

Moreover, the processing operations recited in the claims significantly differ from the processing operations disclosed in Bright. Claims 1, 21 and 37, for example, recite defining a respective second polygon in a two-dimensional area for each first polygon to store texture data therefrom. Bright, on the other hand, is totally silent regarding such a feature. Rather, Bright teaches that a rectangular image is sub-divided into triangles (col. 4, line 55 to col. 5, line 17, and col. 6, line 25 to col. 7, line 2). The main triangles and sub-divided triangles in Bright cannot be construed to read on the respective first and second polygons recited in claim 1. In particular, a second polygon is defined for each first polygon in the claim; Bright, in contrast, does not define a sub-divided triangle for each top-level triangle. To the contrary, in Bright a triangle is sub-divided only if the decision in step 34 of Fig. 1A decides that the threshold is exceeded, that is, that the difference between the pixel values within the triangle and the pixel values calculated by interpolating the values at the vertices alone exceeds a threshold.

Moreover, independent Claims 1, 21 and 37 recite that each second polygon is defined with an area depending upon a determined measure of importance of the texture data for the corresponding first polygon. On the other hand, Bright describes that the triangle is divided in two by creating a line from the mid-point of the hypotenuse of the triangle to its right angle corner (col. 6, lines 15-19). Therefore, the area of each sub-divided triangle is equal and is unrelated to the measure of importance of texture data.

Claims 1, 21 and 37 further recite that each second polygon is defined with an area that increases as the importance of the texture data to be stored therein increases. Bright has an opposite teaching, namely, the triangles are divided into increasingly smaller triangles for areas of the images where there is more detail. As a result, the density of the resulting triangles is approximately proportional to the level of detail. Consequently, in Bright small triangles are used to store high levels of detail while larger triangles are used to store lower levels of detail (Abstract and col. 10, lines 37-43).

Thus, Bright fails to disclose or suggest important features of the present invention recited in independent Claim 1, 21 and 37 and those claims are patentable over the citations of record.

For similar reasons, Bright does not disclose or suggest that a relatively large storage area is allocated for texture data with a relatively large amount of detail and a relatively small storage area is allocated for texture data with a relatively small amount of detail, as recited in independent claims 16, 17, 34, 35, 38 and 39.

Moreover, Claims 16, 34, and 38 recite that a respective measure of the storage area to be allocated in a texture coordinate map is determined for at least some of polygons in a three-dimensional computer model. Applicants submit that Bright is totally silent regarding any processing of polygons in a three-dimensional computer model.

Claims 17, 35, and 39 further recite that first polygons are defined in a first two-dimensional area and second polygons are defined in a second two-dimensional area and that the area of the second two-dimensional area is less than the area of the first two-dimensional area. In

contrast, the triangles in Bright are defined within the original two-dimensional image and there is no change of area of that two-dimensional image.

Thus, independent claims 16, 17, 34, 35, 38, and 39 are also patentable over the citation of record.

Applicants respectfully submit that the present invention is patentably defined by independent Claims 1, 16, 17, 21, 34, 35 and 37-39. Accordingly, reconsideration and withdrawal of the 35 U.S.C. § 102 rejection are requested.

The dependent claims are also believed to be allowable due to their dependence upon allowed independent claims and in their own right for defining further features of the present invention. Individual consideration of the dependent claims is requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the rejection set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Appln. No.: 10/810,605

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mark A. Williamson", written over a horizontal line.

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